Author Index

Alston, A. M. (see Nadian, H.), 155

Anderson, P. D. & Tomlinson, P. T., Ontogeny affects response of northern red oak seedlings to elevated CO_2 and water stress. I. Carbon assimilation and biomass production, 477

——, (see Tomlinson, P. T.), 493

Ashenden, T. W. (see Whitfield, C. P.), 219

——, (see Stirling, C. M.), 343

Ayres, P., 171

Azcón-Aguilar, C. (see Benabdellah, K.), 135

Azémar-Lorentz, S. (see Jordy, M. N.), 331

Bäckman, M. (see Taulavuori, E.), 691

Bailey, J. S., Varying the ratio of ^{15}N-labelled ammonium and nitrate-N supplied to perennial ryegrass: effects on nitrogen absorption and assimilation, and plant growth, 505

Benabdellah, K., Azcón-Aguilar, C. & Ferrol, N., Soluble and membrane symbiosis-related polypeptides associated with the development of arbuscular mycorrhizas in tomato (*Lycopersicon esculentum*), 135

Bergman, B. (see Fredriksson, C.), 531

Bertagne, N. (see Volaire, F.), 451

Björn, L. O. (see Taulavuori, E.), 691

Boddy, L. (see Wells, J. M.), 283

——, (see Hendry, S. J.), 549

Bonfante, P. (see Genre, A.), 745

Bonnet, M. (see Karabaghli-Degron, C.), 723

Botton, B. (see Jordy, M. N.), 331

Bourgeois, E. (see Volaire, F.), 451

Bowman, D. M. J. S., Tansley Review No. 101. The impact of Aboriginal landscape burning on the Australian biota, 385

Brandes, B., Godbold, D. L., Kuhn, A. J. & Jentschke, G., Nitrogen and phosphorus acquisition by the mycelium of the ectomycorrhizal fungus *Paxillus involutus* and its effect on host nutrition, 735

Brun, A. (see Jordy, M. N.), 331

Bumiller, A. (see Rolletschek, H.), 211

Buttler, A., Grosvernier, P. & Matthey, Y., A new sampler for extracting undisturbed surface peat cores for growth pot experiments, 355

Cahill, jr., J. F. (see Casper, B. B.), 231

Cairney, J. W. G. (see Liu, G.), 145

Callaghan, T. (see Taulavuori, E.), 691

Carney, S. E. (see Rieseberg, L. H.), 599

Casper, B. B., Cahill, jr., J. F. & Hyatt, L. A., Above-ground competition does not alter biomass allocated to roots in *Abutilon theophrasti*, 231

Chambers, S. M. (see Liu, G.), 145

Clark, J. I. M. & Hall, J. L., Solute transport into healthy and powdery mildew-infected leaves of pea and uptake by powdery mildew mycelium, 261

Crittenden, P. D. (see Hyvärinen, M.), 519

Dale, H. & Press, M. C., Elevated atmospheric CO_2 influences the interaction between the parasitic angiosperm *Orobanche minor* and its host *Trifolium repens*, 65

Davison, A. W. (see Whitfield, C. P.), 219

Debaud, J.-C. (see Marmeisse, R.), 311

Dieter Jeschke, W. (see Peuke, A. D.), 625

Duckett, J. G. (see Ligrone, R.), 567, 581

Durall, D. M. (see Jones, M. D.), 125

Egli, P., Maurer, S., Günthardt-Goerg, M. S. & Körner, C., Effects of elevated CO_2 and soil quality on leaf gas exchange and above-ground growth in beech–spruce model ecosystems, 185

Eissenstat, D. M. (see Graham, J. H.), 103

El-Keblawy, A. & Lovett-Doust, J., Persistent, non-seed-size maternal effects on life-history traits in the progeny generation in squash, *Cucurbita pepo*, 655

Ferrol, N. (see Benabdellah, K.), 135

Fredriksson, C., Malin, G., Siddiqui, P. J. A. & Bergman, B., Aerobic nitrogen fixation is confined to a subset of cells in the non-heterocystous cyanobacterium *Symploca* PCC 8002, 531

Gautier, M.-F. (see Volaire, F.), 451

Gay, G. (see Marmeisse, R.), 311

——, (see Karabaghli-Degron, C.), 723

Genre, A. & Bonfante, P., Actin versus tubulin configuration in arbuscule-containing cells from mycorrhizal tobacco roots, 745

Geßler, A. (see Weber, P.), 461

Giddings, G., Tansley Review No. 99 The release of genetically engineered micro-organisms and viruses into the environment, 173

Giertych, M. J. (see Oleksyn, J.), 239

Gildow, F. E. (see Livingston III, D. P.), 699

Godbold, D. L. (see Brandes, B.), 735

Graham, J. H. & Eissenstat, D. M., Field evidence for the carbon cost of citrus mycorrhizas, 103

Gries, D., Klatt, S. & Runge, M., Copper-deficiency-induced phytosiderophore release in the calcicole grass *Hordelymus europaeus*, 95

Griffiths, H. (see Robe, W. E.), 9

Grosvernier, P. (see Buttler, A.), 355

Günthardt-Goerg, M. S. (see Egli, P.), 185

Gwynn-Jones, D. (see Taulavuori, E.), 691

Hall, J. L. (see Clark, J. I. M.), 261

Hanemann, U. (see Weber, P.), 461

Harper, F. A., Smith, S. E. & MacNair, M. R., Can an increased copper requirement in copper-tolerant *Mimulus guttatus* explain the cost of tolerance? II. Reproductive phase, 637

Harris, M. J. (see Wells, J. M.), 283

Hartley, S. E. (see Kerslake, J. E.), 43

Hartung, W. (see Schiller, P.), 1

——, (see Peuke, A. D.), 625

Heddell-Cowie, M. (see Stirling, C. M.), 343

Hendry, S. J., Lonsdale, D. & Boddy, L., Strip-cankering of beech (*Fagus sylvatica*): Pathology and distribution of symptomatic trees, 549

Henze, R. (see Rolletschek, H.), 211

Holopainen, J. K. (see Manninen, A.-M.), 55

Holopainen, T. (see Manninen, A.-M.), 55

Hyatt, L. A. (see Casper, B. B.), 231

Hyvärinen, M. & Crittenden, P. D., Relationships between atmospheric nitrogen inputs and the vertical nitrogen and phosphorus concentration gradients in the lichen *Cladonia portentosa*, 519

Iglesias-Rodríguez, M. D., Nimer, N. A. & Merrett, M. J., Carbon dioxide-concentrating mechanism and the development of extracellular carbonic anhydrase in the marine picoeukaryote *Micromonas pusilla*, 685

Jargeat, P. (see Marmeisse, R.), 311

Jentschke, G. (see Brandes, B.), 735

Johanson, U. (see Taulavuori, E.), 691

Jones, M. D., Durall, D. M. & Tinker, P. B., A comparison of arbuscular and ectomycorrhizal *Eucalyptus coccifera*: growth response, phosphorus uptake efficiency and external hyphal production, 125

Jones, M. L. (see Stirling, C. M.), 343

Jordano, P. (see Villar, R.), 425

Jordy, M. N., Azémar-Lorentz, S., Brun, A., Botton, B. & Pargney, J. C., Cytolocalization of glycogen, starch, and other insoluble polysaccharides during ontogeny of *Paxillus involutus–Betula pendula* ectomycorrhizas, 331

Jumpponen, A. & Trappe, J. M., Dark septate endophytes: a review of facultative biotrophic root-colonizing fungi, 295

Karabaghli-Degron, C., Sotta, B., Bonnet, M., Gay, G. & Le Tacon, F., The auxin transport inhibitor 2,3,5-triiodobenzoic acid (TIBA) inhibits the stimulation of *in vitro* lateral root formation and the colonization of the tap-root cortex of Norway spruce (*Picea abies*) seedlings by the ectomycorrhizal fungus *Laccaria bicolor*, 723

Karolewski, P. (see Oleksyn, J.), 239

Kelley, S. (see Sims, D. A.), 75

Kerslake, J. E., Woodin, S. J. & Hartley, S. E., Effects of carbon dioxide and nitrogen enrichment on a plant–insect

interaction: the quality of *Calluna vulgaris* as a host for *Operophtera brumata*, 43
Kiss, L., Natural occurrence of *ampelomyces* intracellular mycoparasites in mycelia of powdery mildew fungi, 709
Klatt, S. (see Gries, D.), 95
Knoll, & Schreiber, , , 271
Kohl, J.-G. (see Rolletschek, H.), 211
Koide, , , 539
Körner, C. (see Egli, P.), 185
Kreuzwieser, J. & Rennenberg, H., Sulphate uptake and xylem loading of mycorrhizal beech roots, 319
Kruger, E. L., Volin, J. C. & Lindroth, R. L., Influences of atmospheric CO_2 enrichment on the responses of sugar maple and trembling aspen to defoliation, 85
Kubiske, M. E., Pregitzer, K. S., Zak, D. R. & Mikan, C. J., Growth and C allocation of *Populus tremuloides* genotypes in response to atmospheric CO_2 and soil N availability, 251
Kuhn, A. J. (see Brandes, B.), 735
Laine, K. (see Taulavuori, E.), 691
Lambais, M. R. & Mehdy, M. C., Spatial distribution of chitinases and β-1,3-glucanase transcripts in bean arbuscular mycorrhizal roots under low and high soil phosphate conditions, 33
Lambers, H. (see Villar, R.), 425
Le Tacon, F. (see Karabaghli-Degron, C.), 723
——, (see Selosse, M.-A.), 753
Lelièvre, F. (see Volaire, F.), 439, 451
Ligrone, R. & Duckett, J. G., The leafy stems of *Sphagnum* (Bryophyta) contain highly differentiated polarized cells with axial arrays of endoplasmic microtubules, 567
——, Duckett, J. G., Development of the leafy shoot in *Sphagnum* (Bryophyta) involves the activity of both apical and subapical meristems, 581
Lindroth, R. L. (see Kruger, E. L.), 85
Liu, G., Chambers, S. M. & Cairney, J. W. G., Molecular diversity of ericoid mycorrhizal endophytes isolated from *Woollsia pungens*, 145
Liu, S.-Y. (see Livingston III, D. P.), 699
Livingston III, D. P., Gildow, F. E. & Liu, S.-Y., Barley yellow dwarf virus: effects on carbohydrate metabolism in oat (*Avena sativa*) during cold hardening, 699
Lo Gullo, M. A., Nardini, A., Salleo, S. & Tyree, M. T., Changes in root hydraulic conductance (K_R) of *Olea oleaster* seedlings following drought stress and irrigation, 25
Lonsdale, D. (see Hendry, S. J.), 549
Lovett-Doust, J. (see El-Keblawy, A.), 655
MacNair, M. R. (see Harper, F. A.), 637
Malin, G. (see Fredriksson, C.), 531
Manninen, A.-M., Holopainen, T. & Holopainen, J. K., Susceptibility of ectomycorrhizal and non-mycorrhizal Scots pine (*Pinus sylvestris*) seedlings to a generalist insect herbivore, *Lygus rugulipennis*, at two nitrogen availability levels, 55
Marmeisse, R., Jargeat, P., Wagner, F., Gay, G. & Debaud, J.-C., Isolation and characterization of nitrate reductase deficient mutants of the ectomycorrhizal fungus *Hebeloma cylindrosporum*, 311
Martin, F. (see Selosse, M.-A.), 753
Matthey, Y. (see Buttler, A.), 355
Maurer, S. (see Egli, P.), 185
Mehdy, M. C. (see Lambais, M. R.), 33
Merrett, M. J. (see Iglesias-Rodríguez, M. D.), 685
Meškauskas, A., Moore, D. & Novak Frazer, L., Mathematical modelling of morphogenesis in fungi: spatial organization of the gravitropic response in the mushroom stem of *Coprinus cinereus*, 111
Mikan, C. J. (see Kubiske, M. E.), 251
Moore, D. (see Meškauskas, A.), 111
Murray, R. S. (see Nadian, H.), 155
Nadian, H., Smith, S. E., Alston, A. M., Murray, R. S. & Siebert, B. D., Effects of soil compaction on phosphorus uptake and growth of *Trifolium subterraneum* colonized by four species of vesicular–arbuscular mycorrhizal fungi, 155
Nardini, A. (see Lo Gullo, M. A.), 25
Nimer, N. A. (see Iglesias-Rodríguez, M. D.), 685
Novak Frazer, L. (see Meškauskas, A.), 111
Oleksyn, J. (see Tjoelker, M. G.), 197
——, Karolewski, P., Giertych, M. J., Zytkowiak, R., Reich, P. B., Tjoelker, M. G., Primary and secondary host plants differ in leaf-level photosynthetic response to herbivory: evidence from *Alnus* and *Betula* grazed by the alder beetle, *Agelastica alni*, 239
Pargney, J. C. (see Jordy, M. N.), 331
Peterson, R. L. (see Uetake, Y.), 715
Peuke, A. D., Dieter Jeschke, W. & Hartung, W., Foliar application of nitrate or ammonium as sole nitrogen supply in *Ricinus communis*. II. The flows of cations, chloride and abscisic acid, 625
Polle, A (see Schwanz, P.), 411
Pregitzer, K. S. (see Kubiske, M. E.), 251
Press, M. C. (see Dale, H.), 65
——, (see Watling, J. R.), 667
Ratcliffe, R. G. (see Schiller, P.), 1
Reich, P. B. (see Tjoelker, M. G.), 197
——, (see Oleksyn, J.), 239
Rennenberg, H. (see Kreuzwieser, J.), 319
——, (see Weber, P.), 461
Rieseberg, L. H. & Carney, S. E., 599
Robe, W. E. & Griffiths, H., Adaptations for an amphibious life: changes in leaf morphology, growth rate, carbon and nitrogen investment, and reproduction during adjustment to emersion by the freshwater macrophyte *Littorella uniflora*, 9
Rolletschek, H., Bumiller, A., Henze, R. & Kohl, J.-G., Implications of missing efflux sites on convective ventilation and amino acid metabolism in *Phragmites australis*, 211
Runge, M. (see Gries, D.), 95
Rydin, H. (see Schipperges, B.), 677
Salleo, S. (see Lo Gullo, M. A.), 25
Schiller, P., Hartung, W. & Ratcliffe, R. G., Intracellular pH stability in the aquatic resurrection plant *Chamaegigas intrepidus* in the extreme environmental conditions that characterize its natural habitat, 1
Schipperges, B. & Rydin, H., Response of photosyntesis of *Sphagnum* species from contrasting microhabitats to tissue water content and repeated desiccation, 677
Schneider, S. (see Weber, P.), 461
Schreiber, (see Knoll,), 271
Schwanz, P. & Polle, A, Antioxidative systems, pigment and protein contents in leaves of adult mediterranean oak species (*Quercus pubescens* and *Q. ilex*) with lifetime exposure to elevated CO_2, 411
Selosse, M.-A., Martin, F. & Le Tacon, F., Survival of an introduced ectomycorrhizal *Laccaria bicolor* strain in a European forest plantation monitored by mitochondrial ribosomal DNA analysis, 753
Siddiqui, P. J. A. (see Fredriksson, C.), 531
Siebert, B. D. (see Nadian, H.), 155
Sims, D. A. & Kelley, S., Somatic and genetic factors in sun and shade population differentiation in *Plantago lanceolata* and *Anthoxanthum odoratum*, 75
Smith, S. E. (see Nadian, H.), 155
——, (see Harper, F. A.), 637
Sonesson, M. (see Taulavuori, E.), 691
Sotta, B. (see Karabaghli-Degron, C.), 723
Sparks, T. H. (see Stirling, C. M.), 343
Stirling, C. M., Heddell-Cowie, M., Jones, M. L., Ashenden, T. W. & Sparks, T. H., Effects of elevated CO_2 and temperature on growth and allometry of five native fast-growing annual species, 343
Stoermer, H. (see Weber, P.), 461
Taulavuori, E., Bäckman, M., Taulavuori, K., Gwynn-Jones, D., Johanson, U., Laine, K., Callaghan, T., Sonesson, M. & Björn, L. O., Long-term exposure to enhanced ultraviolet-B radiation in the sub-arctic does not cause oxidative stress in *Vaccinium myrtillus*, 691
Taulavuori, K. (see Taulavuori, E.), 691
Thomas, H. (see Volaire, F.), 439, 451
Tinker, P. B. (see Jones, M. D.), 125
Tjoelker, M. G., Oleksyn, J. & Reich, P. B., Temperature and ontogeny mediate growth response to elevated CO_2 in seedlings of five boreal tree species, 197
Tjoelker, M. G. (see Oleksyn, J.), 239
Tomlinson, P. T. (see Anderson, P. D.), 477
——, Anderson, P. D., Ontogeny affects response of northern red oak seedlings to elevated CO_2 and water stress. II. , 493
Trappe, J. M. (see Jumponen, A.), 295
Tyree, M. T. (see Lo Gullo, M. A.), 25
Uetake, Y. & Peterson, R. L., Association between microtubules

and symbiotic fungal hyphae in protocorm cells of the orchid species, *Spiranthes sinensis*, 715

VENEKLAAS, E. J. (see VILLAR, R.), 425

VILLAR, R., VENEKLAAS, E. J., JORDANO, P. & LAMBERS, H., Relative growth rate and biomass allocation in 20 *Aegilops* (Poaceae) species, 425

VOLAIRE, F., THOMAS, H. & LELIÈVRE, F., Survival and recovery of perennial forage grasses under prolonged Mediterranean drought. I. Growth, death, water relations and solute content in herbage and stubble, 439

——, THOMAS, H., BERTAGNE, N., BOURGEOIS, E., GAUTIER, M.-F., LELIÈVRE, F., Survival and recovery of perennial forage grasses under prolonged Mediterranean drought. II. Water status, solute accumulation, abscisic acid concentration and accumulation of dehydrin transcripts in bases of immature leaves, 451

VOLIN, J. C. (see KRUGER, E. L.), 85

VON SENGBUSCH, D. (see WEBER, P.), 461

WAGNER, F. (see MARMEISSE, R.), 311

WATLING, J. R. & PRESS, M. C., How does the C_4 grass *Eragrostis pilosa* respond to elevated carbon dioxide and infection with the parasitic angiosperm *Striga hermonthica*?, 667

WEBER, P., STOERMER, H., GEßLER, A., SCHNEIDER, S., VON SENGBUSCH, D., HANEMANN, U. & RENNENBERG, H., Metabolic responses of Norway spruce (*Picea abies*) trees to long-term forest management practices and acute $(NH_4)_2SO_4$ fertilization: transport of soluble non-protein compounds in xylem and phloem, 461

WELLS, J. M., HARRIS, M. J. & BODDY, L., Temporary phosphorus partitioning in mycelial systems of the cord-forming basidiomycete *Phanerochaete velutina*, 283

WHITFIELD, C. P., DAVISON, A. W. & ASHENDEN, T. W., The effects of nutrient limitation on the response of *Plantago major* to ozone, 219

WOODIN, S. J. (see KERSLAKE, J. E.), 43

ZAK, D. R. (see KUBISKE, M. E.), 251

ZYTKOWIAK, R. (see OLEKSYN, J.), 239

Subject Index

ABA, 625
Above-ground competition, 231
Abutilon theophrasti Medic., 231
Acer saccharum Marsh., 85
Acetylene reduction, 531
A/c_i response, 75
Actin, 745
Aegilops L., 425
Allocation., 197
Allometry, 343
Amino acids, 461
Ammonium vs. nitrate nutrition, 505
Ampelomyces spp., 709
Anions, 625
Anthoxanthum odoratum, 75
Antioxidants, 411, 691
Aquatic macrophyte, 9
Arbuscular mycorrhizas, 135, 745
Atmospheric CO_2, 251
Australia, 385
Avena sativa L. (oat), 699
Barley yellow dwarf virus, 699
Basidiomycetes, 283, 753
Bilberry, 691
Biomass allocation, 85, 231, 425
Birch, 239
C_4 grass, 667
Calluna vulgaris L. (Hull) (heather), 43
Carbohydrate metabolism, 505, 699
Carbohydrates, 439, 451
Carbon allocation, 125, 251
Carbon dioxide, 43, 343
Carbon dioxide enrichment, 185, 411
Carbon isotope ratio, 75
Carbon/nutrient balance, 43
Cations, 625
Cell-wall thickenings, 331
Chamaegigas intrepidus Dinter, 1
Citrus rootstocks, 103
Cladonia portentosa (Dufour) Coem., 519
CO_2 exchange, 677
CO_2-concentrating mechanism, 685
Cold hardening, 691, 699
Computer simulation, 111
Convective gas flow, 211
Coprinus cinereus (Fries) S. F. Gray, 111
Cores, 355
Cortical microtubules, 581
Cu deficiency, 95
Cytoplasmic polarity, 567
Dactylis glomerata L. (cocksfoot), 439, 451
Dark septate endophytes, 295
defoliation, 85
Dehydration, 1
Dehydrin, 451
Deposition, 519
Desiccation, 677
Deuteromycetes, 295
Diatrypaceae, 549
Differential wall expansion, 581
Dissolved amino acids, 211
Dissolved carbohydrates, 211
Dissolved inorganic carbon, 685
Drought, 411
Drought survival, 439
Ecology, 295
Ectomycorrhiza, 311, 331
Ectomycorrhizal fungi, 753
Ectomycorrhizal fungus, 723
Ectomycorrhizas, 55, 319
Elevated carbon dioxide, 85, 197
Elevated CO_2, 477, 667
Emersion, 9
Endomycorrhizins, 135
Eragrostis pilosa (Linn.) P Beauv., 667
Ericaceae, 145
Ericales, 145
Erysiphaceae, 709
Ethnoecology, 385
Eucalyptus, 125
External hyphae, 125
Extracellular carbonic anhydrase, 685
Extramatrical mycelium, 735
Fagus sylvatica L. (beech), 319
Fagus sylvatica L. (European beech), 185
Fe deficiency, 95
Fine roots., 251
Fire ecology, 385
Foliar N application, 625
Fractals, 283
Fructans, 699
Fruit development, 655
Fruit removal, 655
Fungi, 295
Gene expression, 135
Genetic variation, 75
Gigaspora margarita, 745
Glomus intraradices Schenck and Smith, 33
Glycogen, 331
Gravitropism, 111
Growth, 65, 85, 343
Growth experiment, 355
Hartig net formation, 723
Hebeloma cylindrosporum Romagnesi, 311
Herbivory, 43
heteroduplex, 753
Heterophylly, 9
History of vegetation, 385
Host responses, 65
Host–plant quality, 55
Hyperparasitism, 709
Hypoxia, 211
Immunocytochemistry, 715
Immunolocalization, 531
In situ hybridization, 33
Indole-3-acetic acid (IAA), 723
Insect, 239
Intraradical colonization, 33
Laccaria bicolor ((Maire) Orton), 753
Laccaria laccata ((Scopoli: Fries) Cooke), mitochondrial markers, 753
Laminae regrowth, 505
Landscape ecology, 385
Latent invasion, 549
Lateral root induction, 723
Leaf surface area, 231
Lichen, 519
Life-history traits, 637
Light quality, 231
Littorella uniflora (L.) Ascherson (Shoreweed), 9
Lolium perenne L., 505
Lolium perenne L. (ryegrass), 439, 451
Low water availability, 549
Lycopersicon esculentum L., 135
Lygus rugulipennis Popp., 55
Male and female function, 655
Maternal effects, 655
Maternal fitness, 637
Mathematical models, 111
Micromonas pusilla Butcher, 685
Microsatellite-primed PCR, 145
Microtubules, 567, 715
Mn deficiency, 95
Mutualism, 103

Mycelial cords, 283
Mycelial genets, 145
Mycelium, 261
Mycoparasitism, 709
Mycorrhizal colonization, 103
Mycorrhizas, 125, 145, 295
Nicotiana tabacum L., 745
Nitrate-reductase-deficient mutants, 311
Nitrogen, 43, 251, 519, 735
Nitrogen absorption, 505
Nitrogen availability, 55
Nitrogen cycling, 461
Nitrogen deposition, 185
Nitrogen nutrition, 311
Nitrogen supply, 461
Nitrogenase, 531
Non-heterocystous cyanobacteria, 531
Nutrient transport, 735
Nutrients, 75, 219
Ontogeny, 197
Operophtera brumata L. (winter moth), 43
Orchid, 715
Orobanche minor Sm. (broomrape), 65
Osmotic potential, 451
Oxidative stress, 411
Ozone, 219
Ozone resistance, 219
^{31}P NMR spectroscopy, 1
P uptake, 155
2D-PAGE, 135
Palaeoecology, 385
Parasitic angiosperm, 667
Parasitic angiosperms, 65
Parasitism, 103
Partitioning, 343
Paternal fitness, 637
Paxillus involutus (Batsch) Fr., *Picea abies* (L.) Karst., 735
Peat samples, 355
Perifungal membrane, 745
pH regulation, 1
Phenolics, 43
Phenols, 239
Phenotypic plasticity, 231
Phloem exudate, 461
Phloem transport, 625
Phosphorus, 125, 283, 519, 735
Phosphorus supply, 103
Photosynthesis, 43, 65, 85, 185, 239, 425, 477, 667, 677
Phragmites australis (Cav. Trin. ex Steudel), 211
Phylogeny, 425
Phytosiderophores (PS), 95
Picea abies Karst. (Norway spruce), 185
Pinus pinaster (Ait.), 311
Pisum sativum L., 261
Pitted walls, 581
Plamosdesmata, 567
Plant defence genes, 33
Plantago lanceolata, 75
Plantago major ssp. *major* L., 219
Plant–herbivore interactions, 239
Plasmodesmata, 581
Pollen-tube growth, 637
Populus tremuloides Michx., 85
Populus tremuloides Michx. (trembling aspen), 251
Powdery mildew, 261
Powdery mildew fungi, 709
Pressure chamber, 25
Progeny generation, 655
Protocorms, 715
Quercus rubra L., 477
Quercus spp. (holm oak, white oak), 411
Rainfall, 425
Read management, 211
Recovery, 677
Relative growth rate, 197, 425
Ribosomal DNA, 753
Ricinus communis L., 625
Root endophytes, 295
Root hydraulic conductance, 25
Root length, 231
Root tip, 331
Root:shoot ratio, 231
Scots pine, 55
Seasonal growth, 9
Secondary meristem, 581
Seed mass, 425
Seed production, 219
Seed set, 637
Seed size, 655
Sexual resource allocation, 637
Signal transmission, 111
Soil compaction, 155
Solutes, 439
Somatic, 75
Sphagnum, 567, 581, 677
Spiranthes sinensis (Pers.) Ames, 715
Spruce, 461
Squash (*Cucurbita pepo* L.)., 655
Starch, 331
Stomatal conductance, 477
Stress ethylene, 219
Striga hermonthica (Del.) Benth., 667
Strip-cankers, 549
Sugar and amino acid transport, 261
Sulphate uptake, 319
Symbiosis, 715
Symplasmic transport, 567
Symploca PCC 8002, Kützing (*Microcoleus chthonoplastes* Thuret), 531
Temperature, 197, 343
Translocation, 283
Transpiration, 239
Trifolium repens L. (white clover), 65
Trifolium subterraneum L., 155
2,3,5-triiodobenzoic acid (TIBA), 723
Tubulin, 745
u.v.-B radiation, 691
VA mycorrhiza, 155
Vaccinium myrtillus L., 691
Valencia orange trees, 103
Virus, 75
Water relations, 439
Water stress, 25, 477
Wild wheat, 425
Xylariaceae, 549
Xylem loading of sulphate, 319
Xylem sap, 461
Xylem transport, 625
Zn deficiency, 95